

C O R N E L L

Veterinary Medicine

SUMMER 1997

College Announces Institute for Animal Welfare

Dr. Fred Quimby discussing plans for the Institute with Dr. Katherine Houpt.



The Cornell University Institute for Animal Welfare has been established to foster discussion and research on issues concerning animals in agriculture, laboratories, and the wild.

The institute, which will be based in the College of Veterinary Medicine, will provide financial support for studies by Cornell-affiliated researchers and will bring to campus speakers on a range of animal-welfare topics. This is one of the first university-based programs in the United States to provide grants for animal-welfare research.

"Cornell has a long history of improving standard agricultural practices in behalf of farm animals, as well as enrichment studies for cats, dogs and

monkeys in laboratory situations. We'd now like to extend those efforts for other species," said Fred Quimby, VMD, director of the Center for Research Animal Resources (CRAR) who oversees the treatment of some 60,000 animals at Cornell. He said that more than 25 faculty members in three colleges at Cornell (Veterinary Medicine; Agriculture and Life Sciences; and Arts and Sciences) have expressed interest in participating in institute research and that an institute director soon will be named. The first research grants will be issued this fall.

Start-up funding for the institute comes from the Geraldine R. Dodge Foundation, Incorporated and the Bernice Barbour Foundation, Inc.

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Donald F. Smith To Be Ninth Dean

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Professor of surgery and dean designate, Donald F. Smith officially begins his deanship of the College of Veterinary Medicine at Cornell University on July 1, 1997. Smith will be the ninth dean in the 103-year history of the College.

Following nomination by the Cornell University Provost, Smith's appointment as dean was approved by the Cornell University Board of Trustees in April and the State University of New York Board of Trustees in May.

"After what literally had been a global search, it became clear that we have in our own Donald Smith the person to continue Cornell's great tradition in veterinary medicine," said Provost Don Randel. "Dr. Smith's long and deep involvement in the affairs of the College, including particularly his leadership in implementing its new academic program, make him uniquely qualified to carry forward the College's momentum in a period in which it, like the rest of the university, will encounter new and difficult challenges."

Smith was the associate dean for academic programs when he was named acting dean of the College, in January of this year, to succeed Dean Franklin Loew. A member of the College faculty

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Dean's Message

It is, indeed, an honor and a privilege to serve as Cornell's ninth dean of the College of Veterinary Medicine. With the last four deans — now residing from Ithaca to Vermont to Colorado to Cambridge — providing vigil and occasional counsel, I shall be well served with sagacious advice. Indeed, I am indebted to the powerful legacy that has been established by former deans Poppensiek, Melby, Phemister, and Loew, and by the many department chairs, faculty, and emeritus faculty who have provided this College with its distinguished leadership for many years.

The quality of Cornell's veterinary program is in its people as much as in its programs. And, the impact of what we are able to accomplish is, to a large extent, determined by the degree to which we can establishment meaningful connections with the broader professional community as well as here at Cornell. That the world is becoming a smaller place is not just a cliché; it is true. As dean, I will strive to facilitate the development of meaningful connections between the institution and the environment outside the academy. So, I invite your thoughtful comments and perceptive observations. Please make us aware of emerging opportunities, of challenges that need addressing, and of changing priorities in the profession.

The graduating class of 1997 represents a landmark, not just for Cornell, but also for veterinary education. These graduates represent the first class to have completed — very success-



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fully, to be sure — the challenges and the rewards of the new academic program initiated in the fall of 1993. What has made the development and implementation of the new academic program truly special is the extraordinarily broad base of faculty support which was achieved, and the shared commitment of faculty in developing a curriculum which is based upon how students learn and how they integrate and apply knowledge, as well as how they develop as professionals. That Cornell was able to implement this program for the entire class (not just a parallel track) and encompassing the entire educational program (not simply a subset of courses) truly is remarkable. It is a testament to the vision, initiative, and resolve of a faculty which was willing to accept the risks of developing an academic program built on anticipated future educational challenges and opportunities, even in the face of honored tradition and ongoing success. And it is also testament to the quality and

resilience of a special group of veterinary students who are now colleagues in every sense of the word. Welcome to the profession, graduates of 1997: please stay in touch!

Shortly after my nomination as dean was announced, I wrote a letter to each of my colleagues here at the College. In the letter's last two paragraphs, I outlined some of the precepts that I will honor as we face future challenges:

"None of us knows what the next five years will bring, although we can predict with clarity that it will be a period of great dynamism, unparalleled challenge and much uncertainty, and a period which will necessitate the development of meaningful partnerships in a multitude of domains. I will, therefore, honor those who have the courage to embrace innovative change in areas of highest priority, and I will support those who demonstrate the ability to establish meaningful and productive relationships to enhance the future of the College and the profession.

Finally, I ask for an added measure of trust, commitment and resolve, especially when the path is uncertain; and for integrity and probity, particularly during difficult periods. Most of all, I ask for generosity of spirit and compassion, for it is through our hearts and by our actions that we will be measured by each other and by those whom we are privileged to serve."

Donald F. Smith

ANIMAL WELFARE CONTINUED FROM PAGE 1

"These will be small grants, at least at first, but it's possible to make a little money go a long way with the right kind of planning," Quimby said. "We will encourage investigators to join experiments that are already underway and ask animal-welfare questions in that context," he said, pointing to a birth-control study with white-tailed deer. Cornell scientists are evaluating two types of anti-fertility drugs on a large, enclosed deer population at the nearby Seneca Army Depot — as a suitable alternative to reducing populations by controlled hunting. A researcher with a third type of birth control could readily join that study for little more than the cost of materials, he added.

"Animals differ from humans in degree rather than kind. If we are going to use animals, we have to make sure their lives are as comfortable as possible," explained Katherine Houpt, VMD, PhD, professor of veterinary physiology and director of the College's animal behavior clinic. "It's often possible to design experiments so that the animal can make a choice and tell us something important about what it prefers," she added, discussing results of previous and ongoing studies of the type to be funded by the new institute:

— Horses, in studies of stables, were given a choice of bedding materials and voted with their hooves, so to speak, by getting off them and resting on the material they preferred. Sometimes animals surprise humans, however.

— In a classic Cornell study of poultry preferences, chickens were given the choice of floor-

ing materials — wooden slats or wire mesh. The chickens chose to walk on wire mesh, apparently because wire offers more points of support for their feet.

— Laboratory rabbits were traditionally housed one to a cage because researchers believed the animals would fight. In fact, wild cottontail rabbits will fight others in the same cage, but rabbits that are bred for research are not cottontails. Cornell researchers tried housing litter mates together, and the sociable animals now appreciate the chance for companionship.

— When baboons in medical research appeared to be bored in their cages, Cornell researchers designed an enclosed primate playpen. Now baboons can get their exercise and lab workers can break down the playpen into modules that fit in cage-washer machines.

— Lab primates also were shown to prefer a challenge at mealtime. They would rather search for edible seeds that animal attendants have hidden in pieces of wool fleece, compared with receiving the same food in bowls. The extra effort to find food is reducing some stereotypical behavior of captive animals, such as cage pacing.

The field of animal welfare began with the precursor discipline of animal behavior and Russian physiologist Ivan Pavlov's work with conditioned response. It has since developed to encompass the study of animal emotions and other physiological states. ■

DONALD F. SMITH CONTINUED FROM PAGE 1

from 1977 to 1982 and again since 1987, Smith is an elected member of the National Academy of Practices and a diplomate of the American College of Veterinary Surgeons.

Born in Picton, Ontario, Smith earned the doctor of veterinary medicine degree, with distinction, from the University of Guelph, in Ontario, in 1974. After serving an internship and residency at the University of Pennsylvania, he was named assistant professor of surgery at Cornell in 1977. From 1982 to 1987, Smith taught and did research at the University of Wisconsin — Madison School of Veterinary Medicine, where he was named chair of the department of surgical services in 1986. He returned to the College of Veterinary Medicine at Cornell in 1987 to serve as professor and chair of the department of clinical services.

As associate dean for academic programs at the College, beginning in 1990, Smith provided administrative support to faculty members involved in the development and implementation of the new academic program. He is a general large-animal surgeon with research interests in metabolic abnormalities associated with gastrointestinal obstruction in cattle. Smith is credited for developing a unique model for representing gastrointestinal obstructions in ruminants. ■

Twenty Years After

Medical Science Re-examines Viral Infections and Heart Disease

In current medical research circles, there is renewed interest in studies from the 1970s by Catherine G. Fabricant, MS, then a senior research associate in the department of microbiology and immunology at the College of Veterinary Medicine. These studies established that a herpesvirus infection induced atherosclerosis in an animal model — strikingly like the human arterial disease that may lead to heart attacks and death.

Fabricant worked with her husband, Julius Fabricant, VMD, MS, PhD, professor emeritus of avian medicine in the department of microbiology and immunology, and several colleagues — Dr. C. Richard Minick and his associate Dr. Maria M. Litrenta, both pathologists. After a preliminary paper in 1976, the research findings were published in 1977.

Fabricant's research was among the most crucial early work that gave serious attention to the idea that viruses may play a significant role in blood-vessel disease. Controversial at the time, her research today is recognized as a forerunner to current studies of a potential link between atherosclerosis and viral infection in humans.

In the late 1960s, Fabricant had isolated a previously undescribed herpesvirus in cats that caused a urinary obstruction and, in cell culture, produced peculiar crystals. She could not then identify the crystals, she explains, but she photographed and saved them. She later found a similar photo-



COURTESY CATHERINE FABRICANT

graph in a pathology text identifying the crystals as cholesterol. Polarized-light microscopy and electron diffraction proved that her crystals, too, were cholesterol; these results were published in 1973 in the journal *Science*.

Since cholesterol had long been associated with heart disease, this finding led Fabricant to hypothesize a possible connection between herpesvirus infection and the arterial lesions leading to heart disease. "Cholesterol and obesity did not give all the answers to atherosclerosis — there must be something else to start it," Fabricant recalls thinking. "Whenever I saw something out of the ordinary, I wanted to know why."

The hypothesis was especially relevant to human heart disease because it was well known that a great percentage of humans were latently infected with several herpesvi-

Catherine and Julius Fabricant, research collaborators.

ruses (chicken pox, herpes simplex type I). These viruses have peculiar characteristics — once having caused an infection, they remain latent, or silent, invaders of various cells, leaving no obvious evidence of their presence nor evidence of causing overt disease. However, in periods of stress or other factors, these viruses may reactivate to cause disease (respectively, shingles; and cold sores or fever blisters).

With the encouragement of Edward Melby, DVM '54, then dean of the College of Veterinary Medicine, Fabricant applied for and received a grant from the National Heart, Blood, and Lung Institute at the National Institutes of Health to test the role of herpesvirus infection in atherosclerosis.

Thanks to the work of Bruce Calnek, DVM, MS, then depart-

ment chair of the College's department of microbiology and immunology, and his colleagues, who bred specific-pathogen-free chickens — which tested free of all known pathogenic infections and assured clean reagents — Fabricant explains, her experiment worked like a charm. During the experiment, two groups of SPF-chickens were injected with Marek's disease virus (MDV), a herpesvirus; one group was fed a low-cholesterol diet, and one a high-cholesterol diet.

After seven months, the results were unequivocal, explains Fabricant. The MDV chickens had a large number of grossly visible and microscopic arterial lesions. The lesions in the aorta and descending aorta were very much like human lesions. Two control groups of uninfected chickens, one fed a low-cholesterol diet and one a high-cholesterol diet, had no lesions. Fabricant repeated the experiment and gained the same results.

She went on to do more experiments. She worked with cats and showed that herpesvirus could induce urolithiasis (the abnormal concretion of mineral salts that obstruct the urethra). She also completed research showing that if you immunize chickens and super-infect them with MDV, the immunization prevents tumors as well as arterial lesions.

In the 1970s and '80s, enthusiasm for her studies was not strong among many heart disease researchers, Fabricant explains. "People like to focus on what's fashionable in research," she says. [The link between cholesterol and heart disease was gaining strength at

that time.] "And people with little or no knowledge of virology did not want to give up pet theories, especially not to a veterinary medical researcher, and especially not to a woman!"

Fabricant was not deterred. She was sure she was right, she explains, and she credits her native Italian heritage of stubbornness for giving her the persistence to prove the validity of her hypothesis.

She also credits Julius, who acted as primary investigator on their immunization experiment: "We've been together 51 years. He's always been supportive. We've enjoyed a close, collaborative effort."

Another researcher, Joseph Melnick, kept their studies from being buried in the literature, she reports. In 1983, Melnick, then at Baylor College of Medicine in Houston, reported evidence of cytomegalovirus (a member of the herpesvirus family) in the fatty plaques of patients in whom portions of diseased arteries had been surgically removed and replaced with grafts.

Fabricant, who retired in 1986 after more than 30 years devoted to medical research, is proud of her career. "I did what I wanted," she says. "I proved I was right."

Slowly over the last decade, medical science has begun to pay attention to the results of research done by Catherine Fabricant and others more than 20 years ago. Today, the idea is gaining ground that viruses — in particular, cytomegalovirus (CMV) — might be a probable risk factor for heart disease.

Fabricant speaks of a recent study by Javier Nieto, a researcher at Johns Hopkins University, and his co-author

Melnick, who found associations between CMV and unhealthy thickening of the linings of carotid arteries. Another study by Yi Fu Zhou, she says, found the rate of restenosis [rethickening of previously clogged arteries] was more than five times greater in angioplasty patients who tested positive for CMV antibodies than in those who had not.

"In the past, people never realized the power of CMV," Fabricant explains. "It's one of the notorious viruses that causes failure in such procedures as kidney transplants." In addition to its strength is its prevalence: CMV is widespread in humans — as many as half of 35-year-olds and 60 to 70 percent of 60-year-olds carry the virus, according to current blood-donor research.

New research about CMV ultimately will bring new ways to treat heart disease. Fabricant thinks that a vaccine against CMV in humans is possible, or perhaps an effective antibiotic may be found useful in heart disease. There has been some progress, she explains — an anti-herpes vaccine for chickens is now widely used by the poultry industry, and a herpetic antibiotic, acyclovir, has been developed and used successfully against shingles in humans. One major difficulty in developing a human vaccine for CMV, says Fabricant, lies in the fact that there are no SPF-people in which to isolate the human form of the virus and speed vaccine development.

Microbiology, however, is a science full of possibilities, as Catherine Fabricant has often proven. ■

A Cornell Veterinarian in China

Francis J. Kwong, DVM '39

At the age of 86, parasitologist Francis J. Kwong is still hard at it, publishing the 48-page monthly *Poultry Husbandry and Disease Control*. As chief editor of this leading livestock journal, Kwong, the first Chinese graduate of the college, continues the task that compelled him to return to his war-torn homeland in 1939: to focus his considerable talents in service of the Chinese people.

"I am really very busy and sometimes feel overloaded," wrote Kwong, a survivor of Mao Tse Tung's labor camps of the Cultural Revolution, to classmate Colonel Norbert Lasher (DVM '39, US Air Force retired) last December.

"Though I have 10 capable associates [on the journal]. . . I am the person responsible. . . So I must work hard."

"Although other foreign students stayed here in the late 30s, he wasn't about to do that," Lasher recalls of the jocular Kwong. "He wanted to go home and do his job, and he did a damn good one!"

Kwong's countrymen say so, too. Liu Fuan, DVM, a veterinary professor at the South China Agricultural University in Guangzhou (formerly Canton), describes him as a "legendary expert in veterinary medicine and education." The high esteem she says Kwong is accorded nationwide came from inauspicious beginnings.

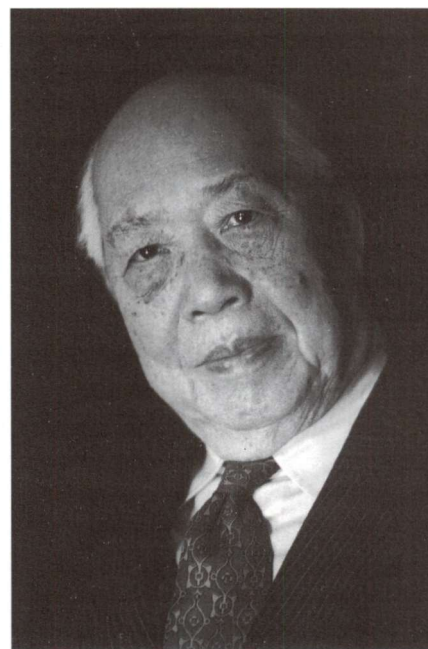
When Kwong, who had been sent by Chiang Kai-shek's government to the West for technical training, returned to China with DVM degree in hand, he found his country in

chaos, with the nationalist government simultaneously defending itself against a civil war promulgated by Mao's communists and an invasion by the age-old enemy, Japan.

Traveling in a convoy of trucks loaded with laboratory equipment and supplies donated by overseas organizations, it took Kwong five months to reach his first post in Lanzhou, a major inland city not then under occupation. During the next seven years, while Kwong was responsible for livestock disease control in a mountainous area larger than France, he discovered a new species of animal parasite, *Protostrongylus kwongi* and made headway in developing a vaccine to confer protection against rinderpest, a disease of great import because cattle were the major draft power used in agricultural production.

Kwong continued his vaccine research in the Central Livestock Experimental Institute in Nanking after V-J day. There, despite considerable pressure to the contrary, Kwong undertook to prove the efficacy of a lapinized rinderpest vaccine advocated by a Japanese scientist in South Korea.

"The trial was epoch-making in China's veterinary history," writes biographer Fuan, "for rabbits were available everywhere, rabbit tissue virus was easily transported and could reach out to all corners of the country, greatly facilitating the mass vaccination campaign carried out in the early fifties to the complete eradication of rinderpest from the country."



COURTESY FRANCIS J. KWONG

In 1949 Kwong became virtually a "one-man veterinary college," teaching first at a Christian-sponsored university in Guangzhou, then later as head of the animal husbandry and veterinary medicine department at the government-sponsored South China Agricultural University (SCAU). Although there were few students in the early days, the department would thrive under Kwong's leadership, graduating students who would move throughout the country becoming "peaches and plums everywhere under the sky," the Chinese saying for disciples. Among the department's many distinctions, it became the first program in China to offer graduate degrees in avian medicine.

Patricia O'Connor Halloran, DVM '39, a close friend of Kwong's in their student days, visited him in China in 1981. She'd persistently tried to reach him during visits to Hong Kong

Cancer-Control Research Targets Crucial Enzyme

H. Alex Brown, PhD, assistant professor of pharmacology at the College of Veterinary Medicine and recently named Kimmel Foundation Scholar, is assembling a research team to study the function of phospholipase D (PLD), a natural enzyme that is believed to be a crucial biochemical link in the cell-signaling cascade that permits the spread of many kinds of cancer cells.

The goal of Brown's research, which is supported in part by a two-year grant totaling \$200,000 from the Sidney Kimmel Foundation for Cancer Research, is to understand the activation of PLD in cells and, ultimately, to design drugs that can inhibit PLD production in cancer cells and halt their spread altogether.

"If we can understand how PLD works, we will likely have explained one of the pathways for the division and migration of cancer cells," Brown said. "This enzyme seems to be associated with the proteins responsible for cell growth and cell cycles in many kinds of cancers. These are very complex chemical-signaling cascades. Some of these enzymes are like billiard balls — one hits another and sets off yet another cascade reaction. What we learn about the biochemistry and molecular structure of PLD and the other chemicals involved will almost certainly aid in the drug-discovery process and in rational drug design of new compounds."

At present there is no cancer drug that specifically targets PLD, and designing a drug to safely modulate the enzyme's activity will not be a simple



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task, Brown said, noting that every human body cell — normal and otherwise — is believed to utilize PLD. However, Brown added, the prospect of a drug that would block tumor migration by interrupting cell-signaling is enough to warrant a long-term commitment on his part. He said he hopes to follow the PLD problem all the way from basic studies to drug design, and will have expanded his four-person Cornell laboratory to nine investigators by this fall.

Brown already has made a good start on the PLD investigation, according to Geoffrey W.G. Sharp, PhD, DSc, professor and chair of pharmacology at the College of Veterinary Medicine. The young scientist succeeded where several others had failed in developing an assay for PLD activity, an achievement that Sharp says opened up a whole new area of investigation.

The PLD assay was developed while Brown was a

"If we can understand how PLD works, we will likely have explained one of the pathways for the division and migration of cancer cells."

postdoctoral researcher at the Southwestern Medical Center in Dallas, working with Paul Sternweis in a University of Texas department chaired by Alfred Gilman, recipient of the 1994 Nobel Prize in medicine for his groundbreaking work in signal transduction. Subsequently, Brown discovered that PLD is regulated by three proteins well known for roles in cellular signal transduction or cancer: ADP-ribosylation factor, protein kinase C, and CDC42.

"One of the reasons I wanted to develop my research at Cornell was to work closely with the laboratory of Rick Cerione, who did important research in understanding the biochemistry of CDC42," Brown explained. While completing his PhD at University of North Carolina, Brown identified and characterized a previously unknown cell surface receptor. The P2U-purigenic receptor is now known to play an important regulatory role in most, and perhaps all, epithelial cells and many other cell types.

Brown joined the faculty of Cornell's College of Veterinary Medicine in 1996. In addition to his research, he will lecture on molecular and cellular medicine, signal transduction, and oncology in both DVM (doctor of veterinary medicine) and graduate curricula. ■

Not by Books Alone

The First Graduates of the New Curriculum

When a group of 80 first-year veterinary students entered the doors of the College's new Veterinary Education Center on August 26, 1993, many did not realize they would be making veterinary education history. But when that same group of veterinary students received diplomas from the College of Veterinary Medicine on May 25, 1997, they were recognized by Dean Donald Smith as the first graduating class to have participated fully in the College's progressive academic program — an innovative curriculum of interactive learning and case-based problem solving.

The veterinary curriculum — implemented by the College in 1993 after six years of strategic planning, self study, and meticulous development by the faculty — is unique among colleges of veterinary medicine. It is presented in a variety of formats that reflect the students'

diverse backgrounds, skills, interests, and talents: small- and large-group exercises, lectures, laboratory work, and discussion. The curriculum was developed to foster the integration of biomedical and clinical knowledge and to offer ample opportunities for veterinary students to pursue individual interests in depth.

Course materials in the new academic program are designed to promote self-directed learning — cases, modules, and computer applications are interactive, involving simulations, animations, prediction tables, audio, and video elements. An extensive and expanding library of case-based exercises and computer courseware is developed collaboratively by members of the veterinary faculty and professional staff, with the assistance of veterinary students. These materials are incorporated into a curriculum that is dynamic and continually evolving to reflect advances in the spectrum of fields in the veterinary profession.

Throughout their four years of study at the College, veterinary students are actively engaged in working with faculty and with peers, as well as independently, explains Smith. Cooperation is stressed over competition, and learning for understanding is emphasized instead of rote memorization. "In this environment, students are viewed as future colleagues," he added, "and they are encouraged to consult often with faculty experts and

to explore a range of educational resource materials that have been developed to support their learning."

" I served this year as a tutor for the first time — this was very time-consuming but very educational for me in several regards. First, I learned the ropes in tutoring and got to know and assist some very nice veterinary students. Second, I updated my own knowledge in genetics and development. Third, I was stimulated to think about more creative ways to approach other teaching I am doing at the graduate level. **"**

— Stephen Bloom, MS, PhD, professor, microbiology and immunology

" The curriculum fosters the development of critical thinking, communication, and clinical reasoning skills," explained. "It complements the comprehensive background in biomedical and clinical disciplines that is the foundation of veterinary medicine. **"**

— Katherine Edmondson, PhD, director of the College's office of educational development and member of the team of curriculum designers



Kevin Wallace reading radiographs to explain a problem.



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“ The new curriculum has strengthened the self-learner in all of us and thus has prepared us well for our practice of veterinary medicine.

Within the context of the curriculum, students are able to identify the modality by which they learn most effectively and capitalize upon this knowledge. Experiences working within different student groups enhance our personal communication and cooperation skills. We learn that each group is only as effective as each member — in many ways similar to everyday work environments. And peer pressure certainly has proven to be the greatest cure for procrastination! Case-based learning answers the big picture question of ‘why is this important?’ The frame of reference provided with each case not only identifies why the information is relevant but also provides the context in which to remember the new information.

Another benefit of the new curriculum is the flexible time schedule that allows each of us to keep sight of our whole person. We can plan our time effectively to include academic and clinical details as well as the other important obligations and choices of our lives — family, children, friends, community activities.

The new curriculum definitely offers veterinary students major advantages. Students graduating from this curriculum will be the best prepared to work effectively with other employees and the best prepared to remain proactive in their personal continuing education. ”

— Melanie Hunt, '97

Melanie Hunt working on a case in the dry laboratory.

“ The new academic program fosters networking and a teamwork atmosphere — from day one, we are in an environment where we are asked to work as colleagues, just as we will in our futures after veterinary college. We learn from each other — each of us shares our experiences and unique perspectives.

The curriculum’s structure gives us each the freedom to choose and plan our time to pursue learning objectives and research areas that are important and interesting to us.

Case-based learning teaches us to approach problems in a systematic and analytical way; we learn to fine-tune our approach to each case. We see that everything is not a black-and-white textbook case and we learn to see the reality of the greyness of cases that do not fit the mold.

The new curriculum affords us the opportunity to pursue more interaction and consults with our professors, in lieu of a traditional, didactic system. And we have more time with animals — we are in the clinics in our very first semester, doing physical exams and taking histories. We’re encouraged to continue clinical experience throughout all four years of our study — we get to know the residents and clinicians and through them learn a diversity of approaches to care. ”

— Kevin P. Wallace, '97

Students Offer Healthy-Pet Clinics

The cats began to arrive at 6:30 pm. They came into the gym at Ithaca's Southside Community Center swaddled in plaid wool blankets, nestled in brocade tote bags, cradled in owners' arms. The first dog walked through the door at about 8 pm.

There were 17 appointments scheduled for February 12, the fourth well-pet clinic to be offered to area residents of limited means by the center and the Community Practice Service (CPS) of Cornell's Veterinary Medical Teaching Hospital. Already there's a waiting list for the next month, and that's not just pet owners but DVM students who want to work the clinic, as well.

"I have to be very careful to be fair in scheduling," says Lori Bradshaw, Class of '99, a member of the six-student core group that offered to organize the clinics. "Once they've been here students really want to come back again, so I've got to be sure everyone's had a turn first."

That's no small feat with 55 first- and second-year students signed up to volunteer. Only a dozen or so are needed to staff each two-hour clinic, conducted under the supervision of CPS coordinator William E. Hornbuckle, DVM, professor of clinical sciences; anatomy instructor Laura Eirmann, DVM '93; and veterinary technician Susan M. Long, RN.

With lots of other things to

do, why would students trudge through the snow on a frigid Wednesday night (grabbing a dinner pizza on the way) to conduct yet another physical exam?

"Because it's great; it's really enjoyable for us to be here," says Dan Smith, Class of '99, who was in charge of client education that week. "And I

setting is off campus.

"You get a better grasp of what an average community practice would be like," Smith explains. "Without having all the diagnostic tools we have in the teaching hospital on campus, you learn how little you absolutely need to get by." What can fit into three 2-foot x 1 1/2-foot x 10-inch Tupperware

storage boxes, to be more exact.

By adding soft mats, the tables that ordinarily display after-school program projects and pot-luck supper offerings become examining tables. The whole setup takes no more than five minutes, and the students are ready to conduct exams, administer vaccinations, treat ear mites, clip nails, and perform all the other run-of-the-mill services vets typically offer healthy pets.

But for the pet owners there's nothing run-of-the-mill about it.

"This is a service for people who could not otherwise afford veterinary care for their pets,"

says Jacqueline Melton Scott, director of Southside. "Just because you can't afford veterinary care doesn't mean that the animal should be deprived." Her assistant at Southside, David Broadnax, supervises the business side of the clinic, charging \$10 per pet for the first half-hour visit. If need be, he says, owners pay on an installment plan.

"What really impresses me is



UNIVERSITY PHOTOGRAPHY © ROBERT BARKER

Cornell veterinary students examine a cat during a recent well-pet clinic at Ithaca's Southside Community Center.

think it's good for the college to have an outreach to the community."

Bradshaw and Smith agree that practicing client communication skills and physical exams — as they do at these monthly clinics — have heightened educational value when the

Help for Coping with the Loss of an Animal Friend

the interaction between students and pet owners," says Eirmann. "They really click." The faithfulness with which owners bring their pets back for recheck appointments, she says, is one gauge of this interaction.

Another is the student-initiated educational program. So far they've organized a table with pamphlets pet owners can pick up, with a student standing by to answer questions. But this is just the beginning.

"Next month we hope to expand the pamphlets and posters and to offer three 15-minute presentations during the evening on general topics such as flea and tick control, vaccinations, dental health, and common companion animal diseases," Smith says. "Students are really into it."

The Southside clinic was the brainchild of Dwight D. Bowman, MS, PhD, who drummed up support for the idea both from veterinarians practicing in the Ithaca area and the College administration. In addition to opportunities for further clinical practice, working in the community attunes students to a veterinarian's humanitarian responsibility, notes Francis A. Kallfelz, DVM, PhD, James Law Professor of Medicine and director of the College's Veterinary Medical Teaching Hospital.

"No doubt, when these students get into private practice they'll face requests to provide services to clients with limited financial means," he says. "It's good for them to be exposed to this while they're here." ■

Because companion animals occupy such special places in our hearts and indeed are members of our family, their loss or death naturally leaves us with deep emotions and feelings of sadness. To address this need, the College of Veterinary Medicine recently began the Pet Loss Support Hotline — a program to offer support systems for those who have lost their companion animals.

"We believe that trained volunteers can help pet owners adjust to their losses," explained Jane Shaw, DVM, instructor of anatomy and one of the faculty coordinators of the project.

"Time, understanding, support, and compassion can help people learn how to cope with their emotions," said Pamela Corey, Class of 1998, student coordinator of the project. "Having someone to turn to, someone who will listen, may be the first step to healing."

The first pet loss support hotline in the country was set up in 1989 at the College of Veterinary Medicine at the University of California, Davis. Cornell's hotline uses guidelines created at UC Davis.

The hotline is staffed by 15 veterinary student volunteers who are trained by a professional grief counselor. Volun-

teers regularly attend discussion meetings with faculty advisors. The meetings assist hotline volunteers in dealing with their personal responses to grief and educate them to better serve the needs of callers.

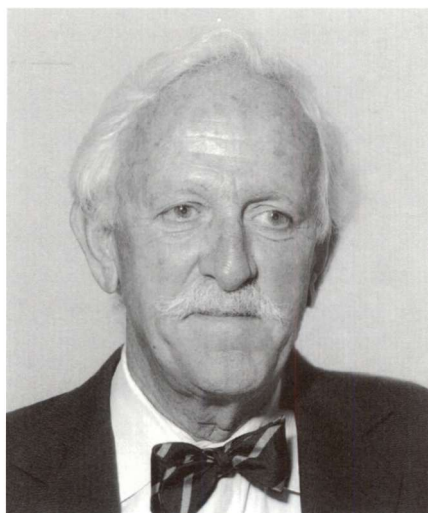
Literature relating to pet loss and grief is maintained by the hotline and available for mailing to callers who request information. In addition, veterinary practitioners also may request resource materials and brochures.

The Cornell hotline is supported in part by pet-food maker the IAMS Co. Additional support comes from alumni of Cornell's College of Veterinary Medicine. ■

Currently, the Pet Loss Support Hotline operates on Tuesday, Wednesday, and Thursday from 6 to 9pm ET and may be reached by phone at 607-253-3932, or on the World Wide Web at <http://www.vet.cornell.edu/public/petloss/>

People, Honors, and Awards

George Abbott, DVM '45, is now serving as a consultant to the College's Veterinary Medical Teaching Hospital with respect to referring veterinarian relations. Dr. Abbott attends regional veterinary association meetings in New York, northern Pennsylvania, and western and southern New England to listen to referring veterinarians comments about the Companion Animal Hospital and the Equine and Farm Animal Hospitals. He also will visit veterinary practices in the region to obtain the views of private practitioners on their interactions with the Veterinary Medical Teaching Hospital. He will provide the hospital with input from the



George Abbott, DVM '45

veterinarians he visits and with information on trends in referring veterinarian relations. Abbott recently moved to Ithaca from Little Compton, Rhode Island; he was in veterinary practice in Warwick, Rhode Island, with George Maurice, DVM '54. Abbott also has served as administrator for Angel Memorial Hospital and as consultant to the American

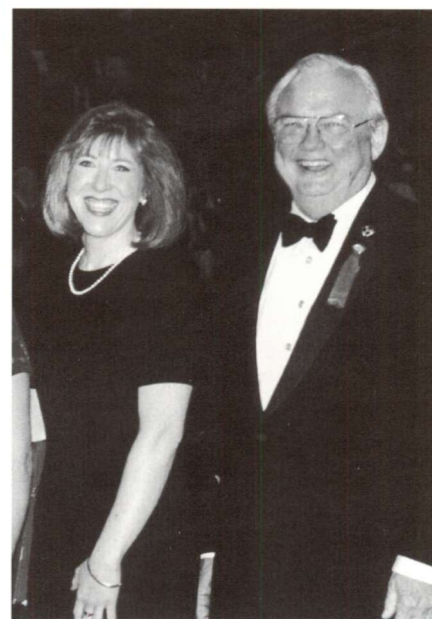
Animal Hospital Association. He also was in small-animal practice in Grafton, Massachusetts, for many years with his brother, Richard Abbott, DVM '57.

Richard A. Cerione, PhD, professor of pharmacology, has accepted an invitation to serve as a member of the Cellular Biology and Physiology Section in the Division of Research Grants of the National Institutes of Health. His term, which began in February 1997, runs through June 2000. Members are selected on the basis of their demonstrated competence and achievement in the scientific discipline as evidenced by the quality of research accomplishments, publications in scientific journals, and other significant scientific activities, achievements, and honors. Study sections review grant applications submitted to the NIH, make recommendations on these applications to the appropriate NIH advisory council or board, and survey the status of research in their fields of science. Membership on a study section represents a major commitment of professional time and energy as well as a unique opportunity to contribute to the national biomedical research effort.

Peter W. Nathanielsz, MB, PhD, ScD, MD, James Law Professor of Reproductive Physiology and director of the Laboratory for Pregnancy and Newborn Research at the College, has received a Fulbright Scholar Award for Distinguished Lecturing. Begin-

ning this year and continuing in 1998, Nathanielsz will deliver lectures at London, Cambridge, Oxford, Southampton, and Glasgow universities on the causes and consequences of premature labor. He also will address current concepts in the long-term programming of health and disease by conditions that exist in the prenatal period. The Fulbright Scholar Program, administered by the US Information Agency, enables established leaders of academic, artistic, and professional excellence to visit the United Kingdom and address problems shared by both the United States and the United Kingdom.

Patricia M. Ryan, DVM '97, was announced as a recipient of a 1996-97 Westminster Kennel Foundation Scholarship, one of only five given to veterinary medical students in the United States. The scholarship recipi-



Patricia M. Ryan, DVM '97 and Trustee George F. Clements, Jr. at the 1997 Westminster Kennel Club Show, Madison Square Garden, New York City.

COURTESY WESTMINSTER KENNEL CLUB

ents were invited by the Westminster Kennel Foundation to attend its 1997 Westminster Kennel Club Show in February at Madison Square Garden in New York City, where they were introduced and recognized publicly as part of the program. Ryan's goal is to work in a small-animal practice and to one day own a veterinarian practice. Ryan, a former elementary science teacher, also is interested in teaching veterinary medicine in a clinical setting.

In Memoriam

Helen Goldhaft Wernicoff, DVM '33, died in February at her home in Coral Gables, Florida. She was the third woman DVM graduate of the College; during two of her years at Cornell, she formed a rare brother-sister team of DVM students with her brother, Tevis M. Goldhaft, DVM '35, of Haverford, Pennsylvania. Early in her professional career, she and her husband, Nathan Wernicoff, DVM '31, practiced small-animal medicine in Forest Hills, New York. Beginning in 1939, she joined with her husband, her father and her brother — all veterinarians — in the ownership of Vineland Laboratories, Inc., a licensed producer of biologics primarily for the avian field, in Vineland, New Jersey. At the time of her death, she had two children, five grandchildren, and one great-grandchild. ■

Select Student Researchers in Summer Intensive Program

Twenty-four veterinary students are participating in this summer's Leadership Program at Cornell University, from June 2 through August 8. The program, hosted by the College of Veterinary Medicine and now in its eighth year, is an intensive experience for students who aspire to research careers in academia, government, or industry.

The program is highly competitive; successful applicants typically stand in the top 10 percent of their veterinary class — some have research experience, and all have distinguished themselves in a variety of academic, cultural, or individual pursuits.

This summer, four veterinary students from Cornell will participate as fellows in the program. Dennis B. Bailey, Class of 2000, will work on *studies of a novel signaling molecule*, with mentor Richard Cerione, PhD, professor in pharmacology; Monica C. Mason, Class of 2000, will work on *cloning and expression of Schistosoma mansoni BiP*, with mentor Edward Pearce, PhD, assistant professor of microbiology and immunology; Jodi L. Novak, Class of 2000, will work on a *horse genome project*, with mentor Douglas Antczak, VMD, PhD, Dorothy Havemeyer McConnville Professor of Equine Medicine and director of the James A. Baker Institute for Animal Health; and Tristan K. Weinkle, Class of 1999, will work on *cloning and pathological assessment of a snake retrovirus*, with mentors James Casey, PhD,

associate professor of microbiology and immunology and Paul Bowser, MS, PhD, professor of microbiology and immunology.

Student fellows conduct faculty-guided research and participate in a variety of professional enrichment activities calculated to develop their leadership skills, an acceptable code of professional ethics, and an awareness of the opportunities for advanced training in research and clinical studies. Students have significant responsibilities in structuring the program. The goal of the program is to provide insight into the planning and conduct of research, data evaluation, and how one effectively uses the human and material resources of a research laboratory.

This summer's program features Leadership Day talks by Dr. Brian Farrow, chair of clinical studies, University of Sydney, Australia; Dame Leonie Kramer, chancellor, University of Sydney; and Frank H.T. Rhodes, president emeritus, Cornell University.

Career counseling is a prominent feature of the Leadership Program. Scientists and administrators who occupy positions of distinction visit the College to discuss career options for veterinarians and to advise participating fellows about future training. Opportunities to discuss research and clinical training also will be arranged during the ten-week program.

The program is sponsored jointly by the National Institutes of Health, the Richard King

CONTINUED ON PAGE 14

KWONG CONTINUED FROM PAGE 6

in the 60s and 70s but to no avail. SCAU had been closed from 1966 to 1974, during which time Kwong, like all of China's scientists, endured the privations and indignities visited upon intellectuals during the Cultural Revolution. Of this decade Fuan writes that although Kwong spent some years in physical labor to "remold the ideology, despite such unfair treatment he remained a true patriot at heart."

Kwong, dressed in the requisite Mao jacket, met Halloran at the airport with a government limousine.

"He wanted to know how much money I made," she recalls with a laugh. "For in China all veterinarians, including Kwong's two daughters and their husbands, work for the government."

Although Kwong hadn't spoken English in 20 years, he remembered it well, she says, and led Halloran and a group of veterinarians on a tour of his department.

Yet Kwong's strong advocacy of a curriculum in avian medicine led, during the past 20 years, to a thriving poultry industry in Guangdong province.

"It is easier," he's quoted as saying, "to provide each of our people one egg per day rather than one glass of milk per day."

Kwong's labors on his journal continue to support the industry. Despite ailing health and an uncertain political climate, Kwong ends his letter to Lasher on a typically upbeat note.

"I am always enjoying my work," he writes, "and have a happy family [five children and nine grandchildren, in all]. These are the source of my initial energy of life." ■

SELECT STUDENTS CONTINUED FROM PAGE 13

Mellon Foundation, the Merck Foundation, the Robert W. Woodruff Foundation, the Florence Gould Foundation, the Marilyn M. Simpson Trust, the United States Department of Agriculture, and La Fundacion Purina in Spain. Additionally, the Wellcome Trust, which has sponsored students in each of the last three years, will again entertain fellowship applications from students from the United Kingdom. ■

Equine Conference

An international conference titled Neurologic and Behavioral Disorders of the Horse is scheduled for July 11-13 at the College of Veterinary Medicine. The conference is dedicated to the memory of the late John F. Cummings, DVM, MS, PhD, James Law Professor.

The conference is sponsored by Cornell's College of Veterinary Medicine, The Zweig Foundation, Pharmacia & Upjohn, and the Agway Foundation.

For registration information, contact the office of continuing education, by email at <lra2@cornell.edu> or phone at 607-253-3200.

Apologies

Information cited about Dr. Mary Denver in the spring 1997 issue of *Cornell Veterinary Medicine* was in error. In the photo caption on page 11, in "Kudos to Cornellians," the identification should read: Dr. Mary Denver, DVM '92, zoo veterinarian, El Paso Zoo, El Paso, Texas.

Cornell Email for Alumni

If you're an alumnus of Cornell University and not already electronically wired, this information is for you. All Cornell graduates are eligible to sign-up for a personal electronic network connection to the Internet and Cornell University — including a Cornell email address. The service includes creation of a personal Net ID, a listing in the Cornell electronic mail directory, the complete BearAccess software package, unlimited use of all BearAccess network services (email, newsgroups, CUINFO), and consulting support. Alumni rates, dependent on specific subscription options, begin at a one-time \$100-software-license-fee plus an \$8-per-month service fee.

For details, contact CU-Connect by phone at 607-254-5200, by fax at 607-255-9270, or by email at <CU Connect@cornell.edu>

Office hours are 1 to 8pm on Mondays and Wednesdays, and 1 to 5pm on Tuesdays, Thursdays, and Fridays. ■

Giving Opportunities

The raccoon rabies vaccine program needs a 12- to 15-foot camper trailer, for overnight stays in study areas. Also on their wish list is a 4WD-truck, cap preferred. If you can help, contact the College's office of public affairs, 607-253-3744. ■

Recent Gifts to the College

Notable Gifts

The Noonan-Clark Family Endowment Fund, established as a scholarship fund for Cornell veterinary students, honors five veterinarians from the family: James T. Noonan, Cornell DVM '58, of Akron, Ohio; Robert Clark (James's cousin), Cornell DVM '52, of Pound Ridge, New York; John Noonan (James's brother), Oklahoma State University DVM '58, deceased; Cyril J. Noonan (James's uncle), Cornell DVM '28, deceased; and Henry P. Noonan (James's father), Cornell DVM '19, deceased.

The Rudolph J. Steffen Medical Research Endowment Fund in the College of Veterinary Medicine recently was established with a contribution from the estate of Rudolph J. Steffen valued in excess of \$1 million. The endowment honors the late Rudolph Steffen, DVM '34, who died in November 1995. Dr. Steffen was in private practice in Horseheads, New York, for 35 years, and served as Chemung County veterinarian for 33 years. He also was active in the Southern Tier Veterinary Medical Association and the New York State Farm Bureau; he was a volunteer in the College's Campaign for Excellence in the late 1970s and a recognized research partner and foremost benefactor of the College's James A. Baker Institute for Animal Health. ■

Memorial Gifts Support Animal Health

Helping keep animals healthy is a basic mission of the College of Veterinary Medicine. We work for animals, owners, and veterinarians every day. We teach and train future veterinarians. We conduct research about and find solutions for the diseases and disorders that can harm, kill, or cripple companion animals. In our Veterinary Medical Teaching Hospital, we treat more than 15,000 dogs, cats, birds, horses, farm animals, and wild and exotic animals each year.

The College is a place where people who care deeply about animals learn and work to do something lasting for the health and welfare of animals everywhere. Funding for much of our work on behalf of animals depends on contributions from people who care about animals as much as we do.

Gifts to support the work of the College often are made in memory and honor of a beloved person or companion animal. Such memorial gifts come from people in all walks of life — practicing veterinarians,

alumni, and friends. Memorial gifts made to the College of Veterinary Medicine are used for clinical programs in the hospital, for academic programs, and for research projects. If they wish, donors may request that their gifts be used in specific areas (clinical care, education, research) or for a specific species (horses, cats, dogs, farm animals, exotic animals, or wildlife).

Memorial gifts also may be made directly to a specific program of the College: gifts to the James A. Baker Institute for Animal Health support canine and equine research projects; gifts to the Feline Health Center support research studies about cats; and gifts to the Veterinary Medical Teaching Hospital support the clinical programs of the Companion Animal Hospital and the Equine and Farm Animal Hospitals.

For more information about making memorial gifts, please contact the College's office of public affairs at 607-253-3744. ■



Dr. Rudolph Steffen in June 1990 at the Builders Wall at Cornell's Uris Library.



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Calendar of Events

Events are at Cornell unless otherwise noted. Call 607-253-3200 with questions about continuing education programs; for information about other events, call 607-253-3744.

June

- 2 Summer Leadership Program begins (ends August 8)
- 30 Animal Health Career Connections begins for NYS 4-H teens (ends July 2)

July

- 11-13 International Equine Neurology Conference
- 20-24 AVMA Convention, Reno, Nevada

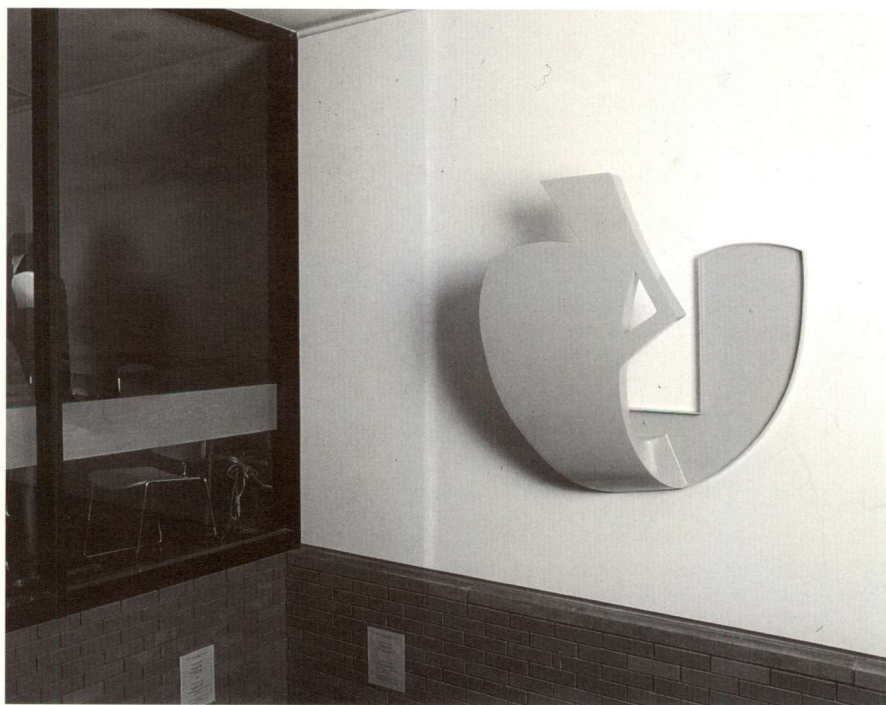
August

- 2 College exhibit at Fingerlakes Race Track

September

- 11 NYSVMS at Saratoga

Alumnus Donates Work of Art



UNIVERSITY PHOTOGRAPHY

Co-Pilot, a 5-foot x 3-foot x 2-foot yellow-painted aluminum sculpture, 1992, by Florida-based sculptor James Rosburg. Donated by Jay Hyman (DVM '57) and Anita Hyman to the College of Veterinary Medicine at Cornell, the sculpture is mounted on the wall of the second floor of the Veterinary Research Tower.